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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MEW, KEVIN D

ART UNIT	PAPER NUMBER
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2616

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	03/30/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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Office Action Summary

Application No.

09/895,993

Applicant(s)

MIERNIK ET AL.

Examiner

Kevin Mew

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2007.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 34-47 is/are allowed.
- 6) ☒ Claim(s) 1-33, 48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Final Action

Response to Amendment

1. Applicant's Remarks/Arguments filed on 1/16/2007 regarding claims 1-33 have been considered. Claim 48 has been newly added by applicant and claims 1-48 are currently pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-33, 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Satt et al. (US Publication 2004/0248583) in view of Rauhala et al. (USP 6,611,547).

Regarding claims 1, 6, 10, 12, 17, 21, 23, 28, 32, Satt discloses a system with logic to perform a method for service flow mobility, comprising:

queuing traffic for a mobile device in one of a plurality of class of service queues **(different priorities associated with different streams, paragraphs 0142, 0143, 0144)** for the mobile device **(cell queue for queuing traffic for the mobile users, Fig. 15);**

altering an association of the class service queues for the mobile device from first sector second sector in response to at least sector change for the mobile device **(mobile user is transmitted from one cell budget to another, such that the mobile user receives a new resource allocation in the next cell, paragraph 0049);** and

Satt does not explicitly show holding post-sector-change packets for the mobile device until pre-sector-change packets have been emptied from the class of service queues.

However, Rauhala discloses old ATM cells of the old base station BTS1 are buffered (**pre-sector-change packets**, col. 5, lines 46-62 and Fig. 1) and these old ATM cells should be transferred to the new base station BTS2 and sent over the radio path to the mobile station MS (**emptying the old/pre-sector change packets**) *before* sending new ATM cells (**holding the post-sector change packets**) received over the connection 12 between the ATM switch and BTS2 (**holding the transmission of the new ATM cells/post-sector change packets until the old ATM cells/pre-sector change packets have been emptied from the buffer**, col. 5, lines 46-62 and Fig. 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the traffic queuing system and method of Satt with the teaching of Rauhala in buffering ATM cells in input buffer before handover and emptying the cells in the input buffer by transferring the cells to the output buffer after handover such that the traffic queuing system and method of Satt will hold post-sector-change packets for the mobile device until pre-sector-change packets have been emptied from the class of service queues.

The motivation to do so is to prevent the loss of cells or change of cell order during handover so that retransmission of ATM cells is avoided.

Regarding claims 2, 13, 24, Satt discloses a system with logic to perform the method of Claim 1, further comprising reformatting the class of service queues by altering type of class of service queues for the mobile device based on admission criteria of the second sector

(dynamically manages the sector budget based on the policy management rules that control flow of traffic, paragraphs 0062, 0063).

Regarding claims 3, 14, 25, Satt discloses a system with logic to perform the method of Claim 2, wherein the admission criteria comprises classes service available in the second sector **(policy rules are based on QoS attributes, paragraph 0062).**

Regarding claims 4, 15, 26, Satt discloses a system with logic to perform the method of Claim 2, further comprising after reformatting the class of service queues, placing the held traffic in the class of service queues **(placing the user-prioritized traffic in the cell queue, Fig. 15).**

Regarding claims 5, 16, 27, Satt discloses a system with logic to perform the method of Claim 1, wherein altering association comprises altering an object link **(altering association comprises altering a resource allocation, paragraph 0049).**

Regarding claims 7, 18, 29, Satt discloses a system with logic to perform the method change comprises Claim 1, wherein the sector change comprises a primary sector change **(cell that comprises a first cell budget, paragraph 0049).**

Regarding claims 8, 19, 30, Satt discloses a system with logic to perform the method Claim 7, further comprising scheduling traffic out of the class of service queues for delivery to the mobile device through a corresponding class service of the primary sector for the

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mobile device (**packets are read out from the queue based on the priorities of the packet streams**, paragraph 0144).

Regarding claims 9, 19, 31, Satt discloses all the aspects of the claimed invention set forth in the rejection of claim 1 above, except fails to explicitly show a system with logic to perform the method of Claim 1, wherein the pre-sector-change packets comprise packets that have already been queued at the time of the sector change. However, Satt discloses packets are saved in a cell queue and read from the queue on a first-come-first-serve basis (paragraphs 0139, 0144). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the traffic queuing system and method of Satt such that packets are gathered on a first-come-first-serve basis so that the pre-sector-change packets have already been queued at the time of sector change. The motivation to do so is to save the packets in a cell queue on a first-come-first-serve basis so that pre-sector-change packets are read out from the queue first prior to the post-sector-change packets.

Regarding claims 11, 22, 33, Satt discloses all the aspects of the claimed invention set forth in the rejection of claim 1 above, except fails to explicitly show a system with logic to perform the method Claim 1, further comprising in response to at least a further section change, prior emptying the pre-sector change packets for the class of service queues, holding further post-sector change packets for the mobile device until the pre-sector change and the post-sector change packets have been emptied from the class of service queues.

However, Rauhala discloses old ATM cells of the old base station BTS1 are buffered (**pre-sector-change packets**, col. 5, lines 46-62) and these old ATM cells should be transferred to the new base station BTS2 and sent over the radio path to the mobile station MS (**emptying the old/pre-sector change packets**) *before* sending new ATM cells (**holding the post-sector change packets**) received over the connection 12 between the ATM switch and BTS2 (**holding the transmission of the new ATM cells/post-sector change packets until the old ATM cells/pre-sector change packets have been emptied from the buffer**, col. 5, lines 46-62)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the traffic queuing system and method of Satt with the teaching of Rauhala in buffering ATM cells in input buffer before handover and emptying the cells in the input buffer by transferring the cells to the output buffer after handover such that the traffic queuing system and method of Satt will hold post-sector-change packets for the mobile device until pre-sector-change packets have been emptied from the class of service queues.

The motivation to do so is to prevent the loss of cells or change of cell order during handover so that retransmission of ATM cells is avoided.

Regarding claim 48, the combined method of Satt and Rauhala discloses all the aspects of claim 1 above. Satt does not explicitly show the method of claim 1, further comprising:

generating the buffer to temporarily hold the post-sector-change packets; and

placing the post-sector-change packets in the buffer according to a label that identifies the post-sector-change packets.

However, Rauhala discloses generating the buffer to temporarily hold the post-sector-change packets (new cells coming from a party, col. 5, lines 51-54) are buffered in the buffer of BTS2 (buffering the new cells in the buffer of BTS2; the cells are being labeled as new cells).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the traffic queuing system and method of Satt with the teaching of Rauhala such that the traffic queuing system and method of Satt will generate the buffer to temporarily hold the post-sector-change packets; and place the post-sector-change packets in the buffer according to a label that identifies the post-sector-change packets.

The motivation to do so is to prevent the loss of cells or change of cell order during handover so that retransmission of ATM cells is avoided.

Response to Arguments

3. Applicant's arguments filed on 1/16/2007 with respect to claims 1-33 have been considered but they are not persuasive.

Applicant argued on page 1, second and third paragraphs of the Remarks that the combination of Satt and Rauhala fails to teach or suggest "holding post-sector-change packets for the mobile device temporarily in a buffer until pre-sector-change packets have been emptied from the class of service queues," the examiner respectfully disagrees. It is noted that Rauhala discloses a mobile station is transferred by a make-break handover from an old base station to a new base station (col. 5, lines 46-62 and Fig. 1) in such a way that the post-sector-change packets (new cells) destined for the mobile station will be temporarily held in the buffer of the new base station BTS2 (col. 5, lines 51-54) until the pre-sector-change cells (old cells), buffered

in the buffer of BTS1, have been sent to the mobile station (col. 5, lines 55-62 and Fig. 1). Thus, Rauhala teaches "holding post-sector-change packets for the mobile device temporarily in a buffer until pre-sector-change packets have been emptied from the class of service queues" as recited in claim 1. The motivation to combine Rauhala with Satt is to avoid the loss of cells or change of cell order and prevent the need of performing retransmissions, which can found in col. 5, lines 61-62 of Rauhala..

In light of the foregoing, claims 1-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Satt et al. (US Publication 2004/0248583) in view of Rauhala et al. (USP 6,611,547).

Allowable Subject Matter

4. Claims 34-47 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

In claim 34, a method for service flow mobility that maintains packet order comprising:
deleting object links corresponding to the mobile device from first sector-specific object list in the gateway, wherein the first sector-specific object list corresponds to the first sector;
creating object links corresponding to the mobile device second sector-specific object list in the gateway, wherein second sector-specific object list corresponds to the second primary sector.

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In claim 41, a system for service flow mobility that maintains packet order comprising:

means for deleting object links corresponding to the mobile device from first sector-specific object list in the gateway, wherein the first sector-specific object list corresponds to the first sector;

means for creating object links corresponding the mobile device second sector-specific object list in the gateway, wherein second sector-specific object list corresponds the second primary sector.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Mew whose telephone number is 571-272-3141. The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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